

BOARD OF ACTUARIES OF THE CIVIL
SERVICE RETIREMENT SYSTEM FIFTY-
THIRD AND FIFTY-FOURTH ANNUAL
REPORTS

COMMUNICATION

FROM

THE CHAIRMAN OF THE UNITED STATES
CIVIL SERVICE COMMISSION

TRANSMITTING

THE FIFTY-THIRD AND FIFTY-FOURTH ANNUAL REPORTS
OF THE BOARD OF ACTUARIES OF THE CIVIL SERVICE
RETIREMENT SYSTEM, PURSUANT TO 5 U.S.C. 8347(f)

(Referred to the House Committee on Post Office and Civil Service)



SEPTEMBER 20, 1976

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LETTER OF TRANSMITTAL

U.S. CIVIL SERVICE COMMISSION,
Washington, D.C.

HON. CARL ALBERT,
Speaker of the House of Representatives,
Washington, D.C.

DEAR MR. SPEAKER: The Commission is pleased to send you herewith the 53rd and 54th Annual Reports of the Board of Actuaries of the Civil Service Retirement System. These reports, showing the status of the retirement system on June 30, 1973 and June 30, 1974 respectively are submitted in pursuance of section 8347(f) of Title 5, United States Code.

The report has also been sent to the President of the Senate.

Sincerely yours,

ROBERT E. HAMPTON, *Chairman.*



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BOARD OF ACTUARIES,
CIVIL SERVICE RETIREMENT SYSTEM,
June 11, 1976.

U.S. CIVIL SERVICE COMMISSION,
Washington, D.C.

DEAR COMMISSIONERS: The Board of Actuaries appointed under section 8347(f) of Title 5, United States Code, has the honor to submit herewith its fifty-third annual report on the operation of the fund.

The report gives a statement of the contribution necessary to finance the fund on the method provided under Public Law 91-93, under the benefit and contribution provisions of the Act as amended through June 30, 1973, and on the basis of the estimated membership of the fund as of that date. The amounts indicated are based on a projection of the results from the June 30, 1972 valuation, the last completed valuation of the System.

Respectfully submitted,

EDWIN F. BOYNTON.
RUSSELL R. REAGH.
DOUGLAS C. BORTON.

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FIFTY-THIRD ANNUAL REPORT OF THE BOARD OF ACTUARIES
OF THE CIVIL SERVICE RETIREMENT SYSTEM

PREPARED AS OF JUNE 30, 1973

INTRODUCTION

The Civil Service Retirement System was established in 1920 to furnish pension benefits to officers and employees retiring from employment with the United States Government. The current system provides survivor and disability benefits as well as retirement benefits, after various age and service combinations are met. Title 5, United States Code, makes provision for a Board of Actuaries of the Civil Service Retirement System and in section 8347(f) defines the chief duties of the Board, as follows:

(f) The Commission shall select three actuaries, to be known as the Board of Actuaries of the Civil Service Retirement System. The Commission shall fix the pay of the members of the Board, except members otherwise in the employ of the United States. The Board shall report annually on the actuarial status of the System and furnish its advice and opinion on matters referred to it by the Commission. The Board may recommend to the Commission and to Congress such changes as in the Board's judgment are necessary to protect the public interest and maintain the System on a sound financial basis. The Commission shall keep, or cause to be kept, such records as it considers necessary for making periodic actuarial valuations of the System. The Board shall make actuarial valuations every 5 years, or oftener if considered necessary by the Commission.

This report, which has been prepared as of June 30, 1973, is the fifty-third annual report of the Board of Actuaries, but does not include an actuarial valuation of the System. The last complete actuarial valuation of the System was carried out as of June 30, 1972 and the results were presented in the fifty-second annual report. The current report includes estimates to update certain figures from the 1972 valuation and presents statistical data for fiscal year 1973 in the attached tables. It might be noted that the

Board itself no longer carries out the valuation of the System as implied in section 8347(f) quoted above. The valuation is conducted by the actuarial staff of the Commission using methods and assumptions which are approved by the Board.

Appendix I is a summary description of the major provisions of the Civil Service Retirement System.

COVERAGE AS OF JUNE 30, 1973

The active membership of the Civil Service Retirement System as of June 30, 1973 was estimated by the Civil Service Commission to consist of 2,630,800 employees with an annual payroll of \$31.7 billion. Although the number of covered employees has decreased by .6% since June 30, 1972, the total covered payroll has increased by 4.9%. The increase in payroll is primarily due to general salary increases during fiscal year 1973. A distribution by age group and sex of the number of active employees and their compensation is shown in Appendix III-A.

Annuitant data is shown in Appendices III-B through III-E following the text of the report. As of June 30, 1973 there were 843,520 retired employees receiving benefits totaling \$316.3 million per month. In addition, there were 348,945 survivors of employees and annuitants receiving benefits of \$51.4 million per month. The total annualized annuity for these recipients is \$4.41 billion, which represents an increase of 21.8% over the total in 1972. The increase is primarily attributable to a cost-of-living annuity increase of 4.8% during fiscal year 1973, an overall increase in number of recipients of 9.2%, and an increase in average pension at retirement. By law, annuity increases are triggered each time the Consumer Price Index increases by 3% or more.

ACTUAL TO EXPECTED EXPERIENCE

Appendix IV contains a comparison of actual mortality and retirement experience to that expected using rates from the 1972 valuation. Actual deaths were 7.8% higher than expected. Retirements were substantially higher than expected—over 68% higher overall and four times expected for one group. This experience is attributable to a surge in all retirement categories before the cost-of-living increase on July 1, 1973. In addition to the normal surge attributable to cost-of-living increases, a large portion of the government was undergoing a major reduction-in-force. After the July 1, 1973 increase, retirements in aggregate returned to a level closer to that expected. The periodic "surge" in the number of retirements attributable to imminent CPI adjustments which has occurred in the past is likely to diminish in the future due to a change in the System which provides that the pension payable after the date of a CPI adjustment will be at least as large as the amount payable just before the CPI adjustment. In any event, the aggregate rates of retirement, including such surges, will be examined before the next regular actuarial valuation and adjustments made in the rates of retirement, if deemed appropriate.

ACTUARIAL COSTS

The entry age-normal cost rate was determined by the 1972 valuation of the System to be 13.64% of payroll. This rate is the level percentage of salaries of new employees that is required to be paid into the fund during their working careers in order to provide the benefits payable on their account (employee pensions plus survivor benefits), based on the valuation assumptions adopted by the Board for the 1972 valuation. Since there was no actuarial valuation of the System as of June 30, 1973, the normal cost rate applicable to fiscal year 1973 is assumed to remain at 13.64%, the rate determined as of the June 30, 1972 valuation.

The normal cost has historically been compared with the combined agency and employee contribution rate, currently 14.00%, as a measure of adequacy, although there is no statutory basis for so doing. The imputed 1973 normal cost of 13.64%, computed on static assumptions, is slightly below the 14.00% combined contribution rate now being assessed employees and the agencies. The Board, in its 1972 Report, showed the results of two alternate dynamic valuations which illustrated the cost of the inflationary components of the System. The normal cost on the dynamic basis would range from 21.56% to 28.74% of payroll, depending on the assumptions used. The Board believes that it is no longer appropriate to set the contribution rate at one-half of the normal cost. Instead, the employee contribution should be set at a fixed level with the balance of the normal cost to be paid by agencies.

The unfunded liability of the System, as defined in the law (which does not reflect potential future increases due to inflation), was estimated to be \$75,485 million as of June 30, 1972. It is estimated that the unfunded liability has increased to \$81,375 million as of June 30, 1973. The following table shows the major components of the increases:

1. Unfunded liability as of June 30, 1972	\$75,485 million
2. Interest on unfunded liability and benefits due to military service in excess of amounts paid for these items	2,987
3. Liability for cost-of-living increases	2,841
4. Other items	62
5. Estimated unfunded liability as of June 30, 1973	81,375

The above estimates of the normal cost rate and unfunded liability are based on the static assumptions contemplated in the law. The Board's

1972 report included figures on alternate dynamic assumptions. The Board continues to believe that some recognition should be given to funding for future cost-of-living annuity increases and salary increases. During fiscal year 1973 alone the unfunded liability was increased by approximately \$2.8 billion as a result of one cost-of-living increase.

Appendix IV-C sets forth a summary of previous percentage increases in System benefits for retired employees due to the operation of the cost-of-living adjustment, together with the liability created thereby. The Appendix indicates that from December, 1965 to March, 1976 there have been cumulative increases of 104.4% in Civil Service pensions, with total liabilities of \$31.359 billion being added due to such increases. More than \$22 billion of this has been added since 1972, reflecting the rapid inflation in the last few years.

METHOD OF FINANCING SYSTEM

Each employee contributes 7 percent of compensation and each employing agency matches the contributions of its employees to the Civil Service Retirement Fund. In addition, Section 8348(f) of the Act provides that the Government make direct appropriations to liquidate, in level annual installments over 30 years, any increase in unfunded liability resulting from any statute enacted after October 20, 1969 which authorizes new or liberalized benefits, extension of coverage to new groups of employees or increases in salaries on which benefits are based. The Act also provides that the Secretary of the Treasury shall transfer to the fund the following percentages of the amounts equivalent to interest on the unfunded liability and annuity disbursements on account of military service: 10 percent at the end of fiscal year 1971, 20 percent at the end of fiscal year 1972, etc., until 100 percent is reached for fiscal years after 1979. The unfunded liability is defined for this purpose as that portion of the liabilities not met by

present assets and the present value of future employees' and matching employing agencies' contributions, together with the present value of future 30 year payments under Section 8348(f).

The Fund balance as of June 30, 1973 stands at \$31.0 billion. A breakdown of the investments of the Fund on a cash basis is given in Appendix II.

1974 Contribution Levels

Both the employee and agency contributions will be 7% of the total covered payroll during 1974. The payment required on the statutory unfunded liability in fiscal year 1974 would be 40% of the interest on the estimated unfunded liability as of June 30, 1973. The unfunded liability as developed in the June 30, 1972 valuation was \$75,485 million. Based on this figure the Civil Service Commission estimated the June 30, 1973 unfunded liability to be \$81,375 million. The Civil Service Commission also estimates that military service credit payments of \$322 million will be made during fiscal year 1974, of which 40% would be paid.

The total government payments scheduled under Section 8348(f) on June 30, 1972 were \$609,561,000. During fiscal year 1973 there were additional salary increases and benefit liberalizations for certain groups which required annual payments of \$232,894,000. Therefore, total annual payments under 8348(f) were scheduled to be \$842,455,000 as of June 30, 1973. Additional salary increases and benefit liberalizations during fiscal year 1974 required annual payments of \$248,600,000, bringing the total payments under 8348(f) to \$1,091,055,000 as of June 30, 1974. The table below indicates the total government payment which would be made during fiscal year 1974 if the \$31.7 billion payroll and all the factors were to remain at their June 30, 1973 level (cols (2) and (4)). The table also shows what the total payment would be if 100% of the interest on the unfunded liability and military credit

payments were to be made during fiscal year 1974 (cols (1) and (3)).

1974 Contribution Levels

<u>Contribution</u>	<u>Percentage of Payroll</u>		<u>Amount (in millions)</u>	
	<u>Total</u> (1)	<u>Paid</u> (2)	<u>Total</u> (3)	<u>Paid</u> (4)
By Employing Agencies	7.00%	7.00%	\$2,219	\$2,219
Accruing Interest on				
Unfunded Liability				
(40% payable)	12.83	5.13	4,069	1,628
Military Service Credit				
(40% payable)	1.02	.41	322	129
Payment under Section				
8348(F)	3.44	3.44	1,091	1,091
Total	24.29%	15.98%	\$7,701	\$5,067

Appendix I

General Provisions of the Civil Service Retirement System
(Except for item J, description is of provisions for the typical employee.
Certain special provisions are briefly summarized in item J)

A. General

1. Service - Employee must have at least five years of civilian service for any retirement benefit or eighteen months for an employee survivor benefit. Military service not used for Social Security entitlement is credited for eligibility and benefit computation. Unused sick leave is credited only for benefit computation.
2. Salary base - Benefits based on average salary for the highest three consecutive years.
3. Employee Contributions - Employees contribute 7% of covered salary.

If employees did not contribute for, or had received a refund for, prior covered service, benefits are reduced unless contributions are made for this service.

If not eligible for immediate benefit, employee may receive lump sum payment but forfeits right to deferred benefit. If not entitled to deferred benefit, lump sum includes interest. After all benefits have been paid to annuitant and/or survivors, beneficiaries are paid the difference between total contributions and total benefits, if any.

B. Voluntary Retirement

1. Conditions - Age 55 with 30 years of service; age 60 with 20 years; or age 62 with 5 years.
2. Benefit - Percentage of salary base is total of 1-1/2% for each of first five years of service plus 1-3/4% for each of next five years plus 2% for each year thereafter. Maximum percentage is 80% plus percentage due to unused sick leave.

C. Mandatory Retirement

1. Conditions - Age 70 with 15 years of service.
2. Benefit - Same as voluntary benefit.

D. Involuntary Retirement

1. Conditions - Age 50 with 20 years of service, or any age with 25 years.
2. Benefit - Voluntary benefit reduced by 1/6 of 1% for each full month under age 55 at retirement.

E. Disability

1. Conditions - Any age with 5 years of service.
2. Benefit - Voluntary benefit but no less than the smaller of (a) and (b):
 (a) 40% of salary base
 (b) Benefit projected to age 60.

F. Deferred annuity

1. Conditions - Any age with 5 years of service, unless forfeited by payment or refund.
2. Benefit - Accrued benefit at termination payable at age 62.

G. Survivors of deceased employees

1. Condition - 18 months service.
2. Spouse's benefit - 55% of disability benefit paid till death of spouse or remarriage before age 60.
3. Children's benefit
 - (a) Amount (as adjusted for COL increases)
 - (i) If survived by widow(er), each child receives smallest of
 - (a) 60% of average salary divided by number of children
 - (b) \$3,279 divided by number of children or
 - (c) \$1,093
 - (ii) If surviving child(ren) but no widow(er), each child receives smallest of:
 - (a) 75% of average salary divided by number of children
 - (b) \$3,934 divided by number of children, or
 - (c) \$1,311
 - (iii) Flat amounts are increased in line with all CPI adjustments since 11/1/69.

H. Survivors of deceased annuitants

1. Conditions - Spouse receives annuity if annuitant had elected to receive reduced annuity. Reduction is 2-1/2% of designated amount up to \$3,600 plus 10% over \$3,600 a year. Eligible children receive annuity in any event after death of annuitant.
2. Spouse's benefit - 55% of unreduced designated annuity paid till death of spouse or remarriage before age 60.
3. Children's benefit - Same as children of deceased employee.
4. Insurable interest - Unmarried annuitant in good health may designate an individual with an insurable interest to receive a benefit of 55% of the reduced amount. Reduction of 10% to 40% is based on difference in age.

I. Cost-of-Living Adjustments

Employee and survivor annuities are adjusted upward effective the first day of the third month after a rise in the monthly consumer price index published by the Bureau of Labor Statistics of at least 3 percent for 3 consecutive months. The percentage increase is 1 percent plus the highest percentage rise noted in the 3 months, rounded to the nearest 1/10 of 1 percent.

J. Special Groups

1. Members of Congress
 - (a) Conditions - voluntary retirement at age 60 with 10 years of service or age 62 with 5 years. Involuntary at age 55 with 30 years of service; 50 with 20 years; any age with 25 years; age 50 and have served in nine Congresses.
 - (b) Benefit - 2-1/2% of average salary for each year of service. Benefit reduced if under age 60 at retirement. Reduction is 1% per year (calculated by months) for first 5 years before age 60, plus 2% per year prior to age 55.
 - (c) Contributions - 8% of covered salary.

2. Congressional Employees

- (a) Conditions - same as regular conditions.
- (b) Benefit - 2-1/2% of average salary for each year of service.
- (c) Contributions - 7-1/2% of covered salary

3. Hazardous duty employees

- (a) Conditions - Regular conditions or age 50 with 20 years of hazardous duty service.
- (b) Benefit - 2% of average salary for each year of service.

Appendix II

INVESTMENTS OF THE FUND ON JUNE 30, 1973

Table 1 below shows the distribution by interest rate for special issues and by interest rate group for marketable issues.

TYPE OF SECURITY	RATE OF INTEREST	INVESTMENT (AT PAR)	
		Amount (In Thousands)	Percent
Special Issues:	3-3/4%	\$ 929,344	3.0%
	3-7/8	1,147,551	3.7
	4-1/8	2,745,210	8.9
	4-3/4	1,758,171	5.7
	5-5/8	1,628,319	5.3
	5-3/4	3,980,233	12.9
	6-1/8	5,828,489	18.9
	6-1/2	2,909,257	9.4
	6-5/8	3,951,273	12.8
	7-5/8	2,951,729	9.6
Total	5.855	\$27,829,576	90.2%
Marketable Issues:	3 to 3-1/2%	\$ 355,474	1.2%
	4 to 4-1/4	777,579	2.4
	5 to 5-7/8	174,300	.6
	6-1/5 to 6-1/2	1,363,750	4.4
	7-1/2 to 7-3/4	299,500	1.0
	8	65,600	.2
Total	5.472	\$ 3,036,203	9.8%
Grand Total	5.817	\$30,865,779	100.0%

On June 30, 1973, the fund held \$30,865,779,000 (par value) of public debt obligations of the United States. Of this total \$27,829,576,000 or 90.2% was in special non-marketable securities mostly issued on a seven-year maturity basis; the remaining \$3,036,203,000 was invested in public marketable issues. On June 30, 1972, investments on the coupon basis were \$3,036,203,000, while investments on the market yield basis were \$24,631,986,000. Since June 30, 1972 the average yield on all issues has improved from 5.647% to 5.817%.

Appendix III - A

NUMBER AND ANNUAL SALARIES (IN THOUSANDS) OF ACTIVE MEMBERS DISTRIBUTED BY AGE AS OF JUNE 30, 1973

AGE	MEN		WOMEN		TOTAL	
	Number	Salaries	Number	Salaries	Number	Salaries
Under 20	3,562	\$ 26,804	10,140	\$ 61,937	13,702	\$ 88,741
20-24	76,751	637,089	81,683	602,872	158,434	1,239,961
25-29	183,569	1,897,448	105,871	941,692	289,440	2,839,140
30-34	179,261	2,260,663	75,549	718,042	254,810	2,978,705
35-39	188,433	2,619,993	69,460	665,164	257,893	3,285,157
40-44	249,390	3,429,776	77,186	760,304	326,576	4,190,080
45-49	304,112	4,109,725	101,018	1,031,737	405,130	5,141,462
50-54	344,898	4,756,170	106,183	1,114,731	451,081	5,870,901
55-59	225,846	3,090,184	73,290	769,970	299,136	3,860,154
60-64	97,000	1,317,409	38,070	402,299	135,070	1,719,708
65 & over	26,916	380,678	12,612	132,761	39,528	513,439
Total	1,879,738	\$24,525,939	751,062	\$7,201,509	2,630,800	\$31,727,448

Appendix III - B

THE NUMBER AND MONTHLY ANNUITIES OF ANNUITANTS ON THE ROLL
CLASSIFIED BY SEX AND FIFTH-YEAR AGE GROUPS AS OF JUNE 30, 1973
RETIRED ON ACCOUNT OF AGE AND VOLUNTARY AND INVOLUNTARY SEPARATION

AGE GROUP	MEN		WOMEN	
	Number	Monthly Annuity	Number	Monthly Annuity
40-44	53	\$ 17,073	7	\$ 1,862
45-49	2,669	1,063,154	722	259,305
50-54	15,881	7,821,758	3,522	1,414,846
55-59	50,975	30,624,355	9,901	4,665,461
60-64	81,322	45,201,509	25,314	9,550,250
65-69	99,481	46,443,578	41,194	12,320,602
70-74	80,858	33,332,456	38,995	10,606,332
75-79	71,340	24,933,736	28,293	6,792,548
80-84	37,042	11,007,622	14,111	2,950,225
85-89	12,608	3,445,009	4,667	926,536
90-94	2,927	811,504	1,114	214,571
95-99	453	115,798	185	38,981
100-104	30	7,198	12	2,299
105-110			1	17
Total	455,639	\$204,824,750	168,038	\$49,743,835

Note: Monthly voluntary annuities of \$246,623 are included in the above table.

Appendix III - C

THE NUMBER AND MONTHLY ANNUITIES OF ANNUITANTS ON THE ROLL
CLASSIFIED BY SEX AND FIFTH-YEAR AGE GROUPS AS OF JUNE 30, 1973
RETIRED ON ACCOUNT OF DISABILITY

AGE GROUP	MEN		WOMEN	
	Number	Monthly Annuity	Number	Monthly Annuity
20-24	2	\$ 483	4	\$ 859
25-29	141	37,758	125	29,177
30-34	565	161,207	396	97,340
35-39	1,703	511,925	832	206,331
40-44	4,920	1,446,426	1,668	423,243
45-49	12,982	3,985,752	4,434	1,160,351
50-54	27,550	9,164,045	8,141	2,225,196
55-59	31,060	10,423,711	9,910	2,608,931
60-64	28,330	8,971,026	10,840	2,588,366
65-69	21,140	6,316,509	9,067	1,901,275
70-74	13,440	3,486,202	6,404	1,172,207
75-79	13,155	2,746,975	4,134	713,014
80-84	5,312	929,047	1,708	264,868
85-89	1,051	177,843	461	74,323
90-94	179	31,222	126	22,490
95-99	30	5,342	31	5,107
100-104			1	210
105-109	1	376		
Total	161,561	\$48,395,849	58,282	\$13,493,288

Note: Monthly voluntary annuities of \$17,168 are included in the above table.

Appendix III - D

THE NUMBER AND MONTHLY ANNUITIES OF SURVIVOR ANNUITANTS ON THE ROLL
CLASSIFIED BY FIFTH-YEAR AGE GROUPS AS OF JUNE 30, 1973
SURVIVORS OF DECEASED EMPLOYEES

AGE GROUP	CHILDREN		WIDOWS		WIDOWERS	
	Number	Monthly Annuities	Number	Monthly Annuities	Number	Monthly Annuities
0-4	930	\$ 73,297				
5-9	4,885	376,961				
10-14	14,343	1,145,574				
15-19	24,089	2,045,664				
20-24	7,906	699,390	2	\$ 288	1	\$ 709
25-29	319	29,394	52	6,983	2	216
30-34	251	23,199	260	38,695	19	2,469
35-39	170	16,005	655	105,905	42	5,530
40-44	153	14,574	1,494	234,065	46	5,977
45-49	125	11,984	3,536	558,412	73	10,127
50-54	102	9,888	8,057	1,368,948	141	20,154
55-59	42	4,233	13,075	2,336,234	225	31,963
60-64	14	1,464	15,188	2,811,877	231	33,300
65-69	4	402	15,710	2,816,840	230	29,461
70-74	7	656	14,046	2,316,150	129	17,114
75-79			12,323	1,804,536	62	7,228
80-84			8,990	1,200,245	29	4,197
85-89			4,481	548,575	12	1,179
90-94			1,623	171,527	7	691
95-99			472	43,816		
100-104			54	3,906		
105-109			9	598		
			1	59		
Total	53,340	\$ 4,452,685	100,028	\$ 16,367,659	1,249	\$ 170,315

Appendix III - E

THE NUMBER AND MONTHLY ANNUITIES OF SURVIVOR ANNUITANTS ON THE ROLL
CLASSIFIED BY FIFTH-YEAR AGE GROUPS AS OF JUNE 30, 1973
SURVIVORS OF DECEASED ANNUITANTS

AGE GROUP	CHILDREN		WIDOWS		WIDOWERS		OTHERS	
	Number	Monthly Annuities	Number	Monthly Annuities	Number	Monthly Annuities	Number	Monthly Annuities
0-4	147	10,684						
5-9	1,268	94,634						
10-14	4,947	394,761						
15-19	9,501	807,359					2	194
20-24	3,184	278,264						
25-29	243	22,248	1	141				
30-34	279	26,241	38	6,873	1	137	3	232
35-39	277	26,500	153	20,488	7	780	5	410
40-44	328	31,547	371	47,192	12	1,474	7	847
45-49	351	33,901	1,081	151,042	40	4,378	5	541
50-54	327	32,454	3,299	490,586	105	10,857	12	831
55-59	150	14,199	6,695	1,127,833	235	28,112	23	2,314
60-64	73	7,546	11,322	2,110,238	348	45,328	30	3,071
65-69	28	2,693	18,753	3,645,634	569	74,652	33	3,029
70-74	10	958	26,764	4,953,039	688	83,304	57	6,832
75-79	3	223	34,331	5,850,505	695	83,275	74	13,049
80-84			32,164	5,121,957	563	61,528	89	15,778
85-89			20,490	2,946,481	304	28,963	85	13,388
90-94	1	91	9,694	1,215,496	140	11,098	78	11,147
95-99			3,133	338,455	37	2,855	36	5,282
100-104			564	54,674	12	742	11	1,420
105-109			49	4,402	3	61	2	326
			8	650				
Total	21,107	\$ 1,784,303	168,910	\$ 28,085,686	3,759	\$ 437,544	552	\$ 73,691

Appendix IV-A

COMPARISON OF ACTUAL DEATHS TO
EXPECTED DEATHS IN FISCAL YEAR 1973

<u>Group and Type</u>	<u>Actual</u>	<u>Expected*</u>	<u>Ratio of Actual to Expected</u>
Retiree Deaths:			
Disability - Male	8,608	8,383.9	102.7%
- Female	1,835	1,877.3	97.7
Non-disability - Male	21,487	19,481.7	110.3
- Female	4,723	4,244.4	111.3
Total	36,653	33,987.3	107.8

Appendix IV-B

COMPARISON OF ACTUAL RETIREMENTS
TO EXPECTED RETIREMENTS
IN FISCAL YEAR 1973

New Retirees on Immediate Annuity:			
Disability - Male	20,397	15,397.4	132.5
- Female	7,945	5,667.9	140.2
Involuntary - Male	28,006	6,523.0	429.3
- Female	7,250	1,830.6	396.0
Other - Male	64,898	44,039.6	147.4
- Female	19,569	14,137.5	138.4
Total	147,883	87,596.0	168.8

*Based on rates published in the 1972 Board of Actuaries report.

Appendix IV-G

SUMMARY OF EXPERIENCE UNDER COST-OF-LIVING PROVISION 1965-76

<u>Month/year of Increase</u>	<u>CPI Increase (percent)</u>	<u>Benefit Increase (percent)</u>	<u>Increase in Liability (millions)</u>
December 1965	4.6%	6.1%	\$776
January 1967	3.9	3.9	739
May 1968	3.9	3.9	890
March 1969	3.9	3.9	948
November 1969	4.0	5.0	1,410
August 1970	4.6	5.6	1,447
June 1971	3.5	4.5	1,344
July 1972	3.8	4.8	1,735
July 1973	5.1	6.1	2,827
January 1974	4.5	5.5	2,897
July 1974	5.3	6.3	3,578
January 1975	6.3	7.3	4,807
August 1975	4.1	5.1	3,781
March 1976	4.4	5.4	4,180
Accumulations since:			
December 1965	83.2%	104.4%	\$31,359
November 1969	56.1%	71.7%	\$28,006
July 1973	33.6%	41.4%	\$22,070

BOARD OF ACTUARIES,
CIVIL SERVICE RETIREMENT SYSTEM,
June 11, 1976.

U.S. CIVIL SERVICE COMMISSION,
Washington, D.C.

DEAR COMMISSIONERS: The Board of Actuaries appointed under section 8347(f) of Title 5, United States Code, has the honor to submit herewith its fifty-fourth annual report on the operation of the fund.

The report gives a statement of the contribution necessary to finance the fund on the method provided under Public Law 91-93, under the benefit and contribution provisions of the Act as amended through June 30, 1974, and on the basis of the estimated membership of the fund as of that date. The amounts indicated are based on a projection of the results from the June 30, 1972, valuation, the last completed valuation of the System.

Respectfully submitted,

EDWIN F. BOYNTON,
RUSSELL R. REAGH,
DOUGLAS C. BORTON.

FIFTY-FOURTH ANNUAL REPORT OF THE BOARD OF ACTUARIES
OF THE CIVIL SERVICE RETIREMENT SYSTEM

PREPARED AS OF JUNE 30, 1974

INTRODUCTION

The Civil Service Retirement System was established in 1920 to furnish pension benefits to officers and employees retiring from employment with the United States Government. The current system provides survivor and disability benefits as well as retirement benefits, after various age and service combinations are met. Title 5, United States Code, makes provision for a Board of Actuaries of the Civil Service Retirement System and in section 8347(f) defines the chief duties of the Board, as follows:

"(f) The Commission shall select three actuaries, to be known as the Board of Actuaries of the Civil Service Retirement System. The Commission shall fix the pay of the members of the Board, except members otherwise in the employ of the United States. The Board shall report annually on the actuarial status of the System and furnish its advice and opinion on matters referred to it by the Commission. The Board may recommend to the Commission and to Congress such changes as in the Board's judgment are necessary to protect the public interest and maintain the System on a sound financial basis. The Commission shall keep, or cause to be kept, such records as it considers necessary for making periodic actuarial valuations of the System. The Board shall make actuarial valuations every 5 years, or oftener if considered necessary by the Commission."

This report, which has been prepared as of June 30, 1974, is the fifty-fourth annual report of the Board of Actuaries, but does not include an actuarial valuation of the System. The last complete actuarial valuation of the System was carried out as of June 30, 1972 and the results were presented in the fifty-second annual report. The current report includes estimates to update certain figures from the 1972 valuation and presents statistical data for fiscal year 1974 in the attached tables. It might be noted that the Board itself no longer carries out the valuation of the System as implied in

section 8347(f) quoted above. The valuation is conducted by the actuarial staff of the Commission using methods and assumptions which are approved by the Board.

Appendix I is a summary description of the major provisions of the Civil Service Retirement System.

COVERAGE AS OF JUNE 30, 1974

The active membership of the Civil Service Retirement System as of June 30, 1974 was estimated by the Civil Service Commission to consist of 2,671,300 employees with an annual payroll of \$34.3 billion. The number of covered employees has increased by 1.5% since June 30, 1973, and the total covered payroll has increased by 8.2%. The increase in payroll is primarily due to general salary increases during fiscal year 1974. A distribution by age group and sex of the number of active employees and their compensation is shown in Appendix III-A.

Annuitant data is shown in Appendices III-B through III-E following the text of the report. As of June 30, 1974 there were 938,654 retired employees receiving benefits totaling \$414.9 million per month. In addition, there were 367,527 survivors of employees and annuitants receiving benefits of \$62.5 million per month. The total annualized annuity for these recipients is \$5.73 billion, which represents an increase of 29.9% over the total in 1973. The increase is primarily attributable to two cost-of-living annuity increases of 6.1% and 5.5% during fiscal year 1974, an overall increase in number of recipients of 9.5%, and an increase in average pension at retirement. By law, annuity increases are triggered each time the Consumer Price Index increases by 3% or more.

ACTUAL TO EXPECTED EXPERIENCE

Appendix IV contains a comparison of actual mortality and retirement experience to that expected using rates from the 1972 valuation. Actual deaths were about equal to those expected by the assumptions. The number of actual retirements was about 10.6% more than expected. However, disability and voluntary retirements were very close to expected, and most of the retirements in excess of those expected are in the involuntary retirement category, where the number of retirements was about double the expected.

ACTUARIAL COSTS

The entry age-normal cost rate was determined by the 1972 valuation of the System to be 13.64% of payroll. This rate is the level percentage of salaries of new employees that is required to be paid into the fund during their working careers in order to provide the benefits payable on their account (employee pensions plus survivor benefits), based on the valuation assumptions adopted by the Board for the 1972 valuation. The rate determined as of the June 30, 1972 valuation of 13.64% was adjusted to 13.66% as of June 30, 1974 to reflect liberalizations in the System during fiscal 1974.

The normal cost has historically been compared with the combined agency and employee contribution rate, currently 14.00%, as a measure of adequacy, although there is no statutory basis for so doing. The imputed 1974 normal cost of 13.66%, computed on static assumptions, is slightly below the 14.00% combined contribution rate now being assessed employees and the agencies. The Board, in its 1972 Report, showed the results of two alternate dynamic valuations which illustrated the cost of the inflationary components of the System. The normal cost on the dynamic basis would range from 21.56%

to 28.74% of payroll, depending on the assumptions used. The Board believes that it is no longer appropriate to set the contribution rate at one-half of the normal cost. Instead, the employee contribution should be set at a fixed level with the balance of the normal cost to be paid by agencies.

The unfunded liability of the System, as defined in the law (which does not reflect potential future increases due to inflation), was estimated to be \$81,375 million as of June 30, 1973, based on a projection of the 1972 figure. It is estimated that the unfunded liability has increased to \$90,434 million as of June 30, 1974. The following table shows the major components of the increases:

1. Unfunded liability as of June 30, 1973	\$81,375 million
2. Interest on unfunded liability and benefits due to military service in excess of amounts paid for these items	2,888
3. Liability for cost-of-living increases	6,487
4. Other items	-316
5. Estimated unfunded liability as of June 30, 1974	90,434

The above estimates of the normal cost rate and unfunded liability are based on the static assumptions contemplated in the law. The Board's 1972 report included figures on alternate dynamic assumptions. The Board continues to believe that some recognition should be given to funding for future cost-of-living annuity increases and salary increases. During fiscal year 1974 alone the unfunded liability was increased by approximately \$6.5 billion as a result of two cost-of-living increases.

Appendix IV-C sets forth a summary of previous percentage increases in System benefits for retired employees due to the operation of the cost-of-living adjustment, together with the liability created thereby. The Appendix indicates that from December, 1965 to March, 1976 there have been cumulative increases of 104.4% in Civil Service pensions, with total liabilities of \$31.359 billion being added due to such increases. More than \$22 billion of this has been added since 1972, reflecting the rapid inflation in the last few years.

METHOD OF FINANCING SYSTEM

Each employee contributes 7 percent of compensation and each employing agency matches the contributions of its employees to the Civil Service Retirement Fund. In addition, Section 8348(f) of the Act provides that the Government make direct appropriations to liquidate, in level annual installments over 30 years, any increase in unfunded liability resulting from any statute enacted after October 20, 1969 which authorizes new or liberalized benefits, extension of coverage to new groups of employees or increases in salaries on which benefits are based. The Act also provides that the Secretary of the Treasury shall transfer to the fund the following percentages of the amounts equivalent to interest on the unfunded liability and annuity disbursements on account of military service: 10 percent at the end of fiscal year 1971, 20 percent at the end of fiscal year 1972, etc., until 100 percent is reached for fiscal years after 1979. The unfunded liability is defined for this purpose as that portion of the liabilities not met by present assets and the present value of future employees' and matching employing agencies' contributions, together with the present value of future 30 year payments under Section 8348(f).

The Fund balance as of June 30, 1973 stands at \$34.3 billion. A breakdown of the investments of the Fund on a cash basis is given in Appendix II.

1975 Contribution Levels

Both the employee and agency contributions will be 7% of the total covered payroll during 1975. The payment required on the statutory unfunded liability in fiscal year 1975 would be 50% of the interest on the estimated unfunded liability as of June 30, 1974. The unfunded liability as developed in the June 30, 1972 valuation was \$75,485 million. Projecting from this figure the Civil Service Commission estimated the June 30, 1974 unfunded liability to be \$90,434 million. The Civil Service Commission also estimates that military service credit payments of \$409 million will be made during fiscal year 1975, of which 50% would be paid.

The total government payments scheduled under Section 8348(f) on June 30, 1974 were \$1,091,055,000. During fiscal year 1975 there were additional salary increases and benefit liberalizations for certain groups which required annual payments of \$404,326,000. Therefore, total annual payments under 8348(f) were scheduled to be \$1,495,381,000 as of June 30, 1975.

The table below indicates the total government payment which would be made during fiscal year 1975 if the \$34.3 billion payroll and all the factors were to remain at their June 30, 1974 level (Cols. (2) and (4)). The table also shows what the total payment would be if 100% of the interest on the unfunded liability and military credit payments were to be made during fiscal year 1975 (Cols. (1) and (3)).

1975 Contribution Levels

<u>Contribution</u>	<u>Percentage of Payroll</u>		<u>Amount (in millions)</u>	
	<u>Total</u> (1)	<u>Paid</u> (2)	<u>Total</u> (3)	<u>Paid</u> (4)
By Employing Agencies	7.00%	7.00%	\$2,401	\$2,401
Accruing Interest on Unfunded Liability (50% payable)	13.18	6.59	4,522	2,261
Military Service Credit (50% payable)	1.19	.60	409	205
Payment under Section 8348(f)	4.36	4.36	1,495	1,495
Total	25.73%	18.55%	\$8,827	\$6,362

Appendix I

General Provisions of the Civil Service Retirement System
(Except for item J, description is of provisions for the typical employee.
Certain special provisions are briefly summarized in item J)

A. General

1. Service - Employee must have at least five years of civilian service for any retirement benefit or eighteen months for an employee survivor benefit. Military service not used for Social Security entitlement is credited for eligibility and benefit computation. Unused sick leave is credited only for benefit computation.
2. Salary base - Benefits based on average salary for the highest three consecutive years.
3. Employee Contributions - Employees contribute 7% of covered salary.

If employees did not contribute for, or had received a refund for, prior covered service, benefits are reduced unless contributions are made for this service.

If not eligible for immediate benefit, employee may receive lump sum payment but forfeits right to deferred benefit. If not entitled to deferred benefit, lump sum includes interest. After all benefits have been paid to annuitant and/or survivors, beneficiaries are paid the difference between total contributions and total benefits, if any.

B. Voluntary Retirement

1. Conditions - Age 55 with 30 years of service; age 60 with 20 years; or age 62 with 5 years.
2. Benefit - Percentage of salary base is total of 1-1/2% for each of first five years of service plus 1-3/4% for each of next five years plus 2% for each year thereafter. Maximum percentage is 80% plus percentage due to unused sick leave.

C. Mandatory Retirement

1. Conditions - Age 70 with 15 years of service.
2. Benefit - Same as voluntary benefit.

D. Involuntary Retirement

1. Conditions - Age 50 with 20 years of service, or any age with 25 years.
2. Benefit - Voluntary benefit reduced by 1/6 of 1% for each full month under age 55 at retirement.

E. Disability

1. Conditions - Any age with 5 years of service.
2. Benefit - Voluntary benefit but no less than the smaller of
 - (a) and (b):
 - (a) 40% of salary base
 - (b) Benefit projected to age 60.

F. Deferred annuity

1. Conditions - Any age with 5 years of service, unless forfeited by payment or refund.
2. Benefit - Accrued benefit at termination payable at age 62.

G. Survivors of deceased employees

1. Condition - 18 months service.
2. Spouse's benefit - 55% of disability benefit paid till death of spouse or remarriage before age 60.
3. Children's benefit
 - (a) Amount (as adjusted for COL increases)
 - (i) If survived by widow(er), each child receives smallest of
 - (a) 60% of average salary divided by number of children
 - (b) \$3,279 divided by number of children or
 - (c) \$1,093
 - (ii) If surviving child(ren) but no widow(er), each child receives smallest of:
 - (a) 75% of average salary divided by number of children
 - (b) \$3,934 divided by number of children, or
 - (c) \$1,311
 - (iii) Flat amounts are increased in line with all CPI adjustments since 11/1/69.

H. Survivors of deceased annuitants

1. Conditions - Spouse receives annuity if annuitant had elected to receive reduced annuity. Reduction is 2-1/2% of designated amount up to \$3,600 plus 10% over \$3,600 a year. Eligible children receive annuity in any event after death of annuitant.
2. Spouse's benefit - 55% of unreduced designated annuity paid till death of spouse or remarriage before age 60.
3. Children's benefit - Same as children of deceased employee.
4. Insurable interest - Unmarried annuitant in good health may designate an individual with an insurable interest to receive a benefit of 55% of the reduced amount. Reduction of 10% to 40% is based on difference in age.

I. Cost-of-Living Adjustments

Employee and survivor annuities are adjusted upward effective the first day of the third month after a rise in the monthly consumer price index published by the Bureau of Labor Statistics of at least 3 percent for 3 consecutive months. The percentage increase is 1 percent plus the highest percentage rise noted in the 3 months, rounded to the nearest 1/10 of 1 percent.

J. Special Groups

1. Members of Congress
 - (a) Conditions - voluntary retirement at age 60 with 10 years of service or age 62 with 5 years. Involuntary at age 55 with 30 years of service; 50 with 20 years; any age with 25 years; age 50 and have served in nine Congresses.
 - (b) Benefit - 2-1/2% of average salary for each year of service. Benefit reduced if under age 60 at retirement. Reduction is 1% per year (calculated by months) for first 5 years before age 60, plus 2% per year prior to age 55.
 - (c) Contributions - 8% of covered salary.

2. Congressional Employees

- (a) Conditions - same as regular conditions.
- (b) Benefit - 2-1/2% of average salary for each year of service.
- (c) Contributions - 7-1/2% of covered salary.

3. Hazardous duty employees*

- (a) Conditions - Regular conditions or age 50 with 20 years of hazardous duty service.
- (b) Benefit - 2-1/2% of average salary for each year of first 20 years of service plus 2% of salary for service over 20 years.

*Incorporating changes made effective 7/12/74.

Appendix II

INVESTMENTS OF THE FUND ON JUNE 30, 1974

Table 1 below shows the distribution by interest rate for special issues and by interest rate group for marketable issues.

TYPE OF SECURITY	RATE OF INTEREST	INVESTMENT (AT PAR)	
		Amount (In Thousands)	Percent
Special Issues:	3-3/4%	\$ 868,368	2.53%
	3-7/8	1,067,324	3.11
	4-1/8	2,532,823	7.38
	5-5/8	1,628,319	4.74
	5-3/4	3,980,233	11.59
	6-1/8	5,828,489	16.98
	6-1/2	2,909,257	8.47
	6-5/8	3,951,273	11.51
	7-5/8	8,331,420	24.27
Total	6.245	\$31,097,506	90.58%
Marketable Issues:	3 to 3-1/2%	\$ 355,474	1.04%
	4 to 4-1/4	533,219	1.55
	5 to 5-7/8	174,300	.51
	6 to 6-1/2	1,363,750	3.97
	7 to 7-3/4	612,214	1.78
	8 to 8-1/2	194,660	.57
Total	5.883	\$ 3,233,617	9.42%
Grand Total	6.211	\$34,331,123	100.00%

On June 30, 1974, the fund held \$34,331,123,000 (par value) of public debt obligations of the United States. Of this total \$31,097,506,000 or 90.58% were in special non-marketable securities mostly issued on a seven-year maturity basis; the remaining \$3,233,617,000 was invested in public marketable issues. On June 30, 1973, investments on the coupon basis were \$3,036,203,000, while investments on the market yield basis were \$27,829,576,000. Since June 30, 1973 the average yield on all issues has improved from 5.817% to 6.211%.

Appendix III - A

NUMBER AND ANNUAL SALARIES (IN THOUSANDS) OF ACTIVE MEMBERS
DISTRIBUTED BY AGE AS OF JUNE 30, 1974

AGE	MEN		WOMEN		TOTAL	
	Number	Salaries	Number	Salaries	Number	Salaries
Under 20	3,833	\$ 32,027	11,844	\$ 76,690	15,677	\$ 108,717
20-24	83,705	756,011	90,291	699,063	173,996	1,455,074
25-29	212,626	2,326,683	118,340	1,104,824	330,966	3,431,507
30-34	188,453	2,543,133	83,381	848,558	271,834	3,391,691
35-39	184,264	2,761,224	73,276	750,555	257,540	3,511,779
40-44	239,617	3,571,624	78,588	823,531	318,205	4,395,155
45-49	280,967	4,115,174	94,437	1,026,373	375,404	5,141,547
50-54	333,158	4,948,188	108,645	1,211,773	441,803	6,159,961
55-59	230,343	3,396,218	73,233	822,942	303,576	4,219,160
60-64	100,343	1,456,110	39,450	442,467	139,793	1,898,577
65 & over	29,194	436,249	13,312	150,076	42,506	586,325
Total	1,886,503	\$26,342,641	784,797	\$7,956,852	2,671,300	\$34,299,493

Appendix III - B

THE NUMBER AND MONTHLY ANNUITIES OF ANNUITANTS ON THE ROLL
CLASSIFIED BY SEX AND FIFTH-YEAR AGE GROUPS AS OF JUNE 30, 1974
RETIRED ON ACCOUNT OF AGE AND VOLUNTARY AND INVOLUNTARY SEPARATION

AGE GROUP	MEN		WOMEN	
	Number	Monthly Annuity	Number	Monthly Annuity
40-44	59	\$ 27,350	7	\$ 3,194
45-49	2,792	1,307,992	781	320,801
50-54	20,560	11,830,297	5,061	2,310,679
55-59	66,598	46,353,781	12,995	6,940,602
60-64	99,351	64,102,426	30,197	13,241,182
65-69	113,600	61,587,739	45,704	15,860,508
70-74	82,314	39,267,330	40,878	12,879,687
75-79	69,042	28,094,930	29,778	8,214,238
80-84	40,258	13,792,025	15,564	3,744,593
85-89	13,911	4,331,777	5,468	1,204,836
90-94	3,162	982,513	1,286	286,262
95-99	501	143,684	201	45,640
100-104	29	8,074	12	2,774
105-109	2	560		
Total	512,179	\$271,830,478	187,932	\$65,054,996

Note: Monthly voluntary annuities of \$241,748 are included in the above table.

Appendix III - C

THE NUMBER AND MONTHLY ANNUITIES OF ANNUITANTS ON THE ROLL
CLASSIFIED BY SEX AND FIFTH-YEAR AGE GROUPS AS OF JUNE 30, 1974
RETIRED ON ACCOUNT OF DISABILITY

AGE GROUP	MEN		WOMEN	
	Number	Monthly Annuity	Number	Monthly Annuity
20-24	2	\$ 492		
25-29	178	53,626	168	\$ 44,485
30-34	697	230,093	484	136,652
35-39	1,825	629,025	977	278,495
40-44	5,235	1,793,628	1,980	584,158
45-49	13,104	4,714,124	4,741	1,447,429
50-54	30,717	12,134,486	9,616	3,033,014
55-59	35,702	14,122,017	11,109	3,387,537
60-64	30,939	11,279,233	11,960	3,273,403
65-69	22,494	7,701,630	9,401	2,243,788
70-74	13,659	4,119,326	6,735	1,420,943
75-79	12,225	2,987,835	4,389	863,790
80-84	6,069	1,226,992	1,912	339,501
85-89	1,270	234,858	548	98,311
90-94	201	38,440	131	25,354
95-99	34	6,921	38	7,207
100-104	1	115	2	458
Total	174,352	\$61,272,841	64,191	\$17,184,525

Note: Monthly voluntary annuities of \$16,621 are included in the above table.

Appendix III - D

THE NUMBER AND MONTHLY ANNUITIES OF SURVIVOR ANNUITANTS ON THE ROLL CLASSIFIED BY FIFTH-YEAR AGE GROUPS AS OF JUNE 30, 1974 SURVIVORS OF DECEASED EMPLOYEES

AGE GROUP	CHILDREN			WIDOWS			WIDOWERS		
	Number	Monthly Annuities		Number	Monthly Annuities		Number	Monthly Annuities	
0-4	885	\$ 79,478							
5-9	4,675	412,677							
10-14	14,119	1,273,586							
15-19	24,254	2,314,429							
20-24	8,466	839,113		43		\$	5	\$ 552	
25-29	374	38,709		305			24	3,552	
30-34	264	27,374		743			45	6,740	
35-39	189	20,004		1,500			62	9,430	
40-44	141	14,876		3,360			88	13,946	
45-49	138	14,729		7,815			177	27,432	
50-54	110	12,055		13,465			307	51,277	
55-59	47	5,325		15,544			306	51,389	
60-64	17	1,986		15,995			311	46,975	
65-69	5	573		14,241			183	27,322	
70-74	1	102		13,097			102	12,838	
75-79				9,160			41	5,795	
80-84				5,098			17	1,887	
85-89				2,055			5	452	
90-94				604			1	51	
95-99				97			1	34	
100-104				13					
105-109				2					
Total	53,685	\$ 5,055,016		103,137	\$ 19,401,613		1,675	\$ 259,672	

Appendix III - E
THE NUMBER AND MONTHLY ANNUITIES OF SURVIVOR ANNUITANTS ON THE ROLL
CLASSIFIED BY FIFTH-YEAR AGE GROUPS AS OF JUNE 30, 1974
SURVIVORS OF DECEASED ANNUITANTS

AGE GROUP	CHILDREN			WIDOWS			WIDOWERS			OTHERS		
	Number	Monthly Annuities		Number	Monthly Annuities		Number	Monthly Annuities		Number	Monthly Annuities	
0-4	147	\$ 11,998										
5-9	1,266	106,235								1	\$	89
10-14	5,099	458,265								1		129
15-19	10,223	977,058								3		260
20-24	3,676	361,849		1	81					4		275
25-29	309	31,506		34	6,017		1	\$	151			
30-34	289	30,521		149	23,933		6		1,079			
35-39	313	33,557		379	58,223		19		2,687			
40-44	328	35,241		1,133	190,755		43		6,153			
45-49	395	42,910		3,419	606,084		107		13,852			
50-54	367	40,822		7,502	1,489,402		243		32,852			
55-59	181	20,382		12,192	2,664,504		428		64,892			
60-64	73	8,336		20,156	4,524,116		642		97,742			
65-69	43	4,796		27,939	6,061,107		802		115,946			
70-74	9	1,007		36,560	7,180,910		837		114,751			
75-79	3	311		33,861	6,271,231		632		82,140			
80-84				22,595	3,762,713		363		40,999			
85-89				10,969	1,600,324		156		14,353			
90-94				3,706	456,309		50		4,375			
95-99				693	75,784		10		713			
100-104				88	8,987		3		69			
105-109				9	842							
Total	22,721	\$ 2,164,794		181,385	\$ 34,981,322		4,342		\$ 592,754		582	\$ 94,684

Appendix IV - A

COMPARISON OF ACTUAL DEATHS
TO EXPECTED DEATHS
IN FISCAL YEAR 1974

<u>Group and Type</u>	<u>Actual</u>	<u>Expected</u>	<u>Ratio of Actual to Expected</u>
Retiree Deaths:			
Disability - Male	8,566	9,021.2	95.0%
- Female	1,893	2,085.4	90.8
Non-Disability - Male	21,568	20,813.8	103.6
- Female	4,825	4,660.8	103.5
Total	36,852	36,581.2	100.7

Appendix IV - B

COMPARISON OF ACTUAL RETIREMENTS
TO EXPECTED RETIREMENTS
IN FISCAL YEAR 1974

New Retirees on Immediate Annuity:			
Disability - Male	15,270	15,206.5	100.4%
- Female	6,093	5,718.8	106.5
Involuntary - Male	11,752	6,120.6	192.0
- Female	3,860	1,810.9	213.2
Other - Male	44,503	43,491.0	102.3
- Female	13,257	13,283.4	99.8
Total	94,735	85,631.2	110.6

Based on rates published in the 1972 Board of Actuaries report.

Appendix IV-G

SUMMARY OF EXPERIENCE UNDER COST-OF-LIVING PROVISION 1965-76

<u>Month/year of Increase</u>	<u>CPI Increase (percent)</u>	<u>Benefit Increase (percent)</u>	<u>Increase in Liability (millions)</u>
December 1965	4.6%	6.1%	\$776
January 1967	3.9	3.9	739
May 1968	3.9	3.9	890
March 1969	3.9	3.9	948
November 1969	4.0	5.0	1,410
August 1970	4.6	5.6	1,447
June 1971	3.5	4.5	1,344
July 1972	3.8	4.8	1,735
July 1973	5.1	6.1	2,827
January 1974	4.5	5.5	2,897
July 1974	5.3	6.3	3,578
January 1975	6.3	7.3	4,807
August 1975	4.1	5.1	3,781
March 1976	4.4	5.4	4,180
Accumulations since:			
December 1965	83.2%	104.4%	\$31,359
November 1969	56.1%	71.7%	\$28,006
July 1973	33.6%	41.4%	\$22,070

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